DOCUMENT RESUME

ED 141 171 SE 022 696

AUTHOR	Rogers, Sandra
TITLE	Laboratory Mathematics. Curriculum Booklet V - Percent.
INSTITUTION	Anderson County School District 2, Honea Path, S.C.
SPONS AGENCY	Bureau of Elementary and Secondary Education (DHEW/OE), Washington, D.C.
PUB DATE	77
NOTE	20p.; For related documents, see SE 022 692-699; Not available in hard copy due to marginal legibility of original document
EDRS PRICE	MF-$0.83 Plus Postage. HC Not Available from EDRS.
DESCRIPTORS	Activity Learning; Decimal Fractions; Educationally Disadvantaged; *Elementary School Mathematics; Elementary Secondary Education; *Fundamental Concepts; Individualized Instruction; *Instructional Materials; Laboratory Procedures; *Low Achievers; Mathematics Education; *Percentage; *Units of Study; Worksheets
IDENTIFIERS	Elementary Secondary Education Act Title III; ESEA Title III

ABSTRACT

This booklet is one of a set of five booklets which comprise the basic curriculum for "Mathematics Laboratories for Disadvantaged Students," a nationally validated Title III ESEA project. This publication provides evaluation materials and student materials related to percents. Topics included are meaning of percent, renaming decimals and percents, renaming fractions and percents, percent of a quantity, and word problems. The project was designed for middle school students (grades 5-8). (RH)

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ED141171

Laboratory Mathematics

Curriculum Booklet 5

Percent

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SE 022 696

LABORATORY MATHEMATICS

Curriculum Booklet V

Percent

Developed by:

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A Nationally Validated Project
funded under
Title III, Elementary and Secondary Education Act
1972-77

PREFACE

This booklet is one of a set of five booklets which comprises the basic curriculum for "Mathematics Laboratories for Disadvantaged Students," a nationally validated Title III ESEA project. Also included in the series is a teacher training booklet. The entire series of booklets was compiled by Mrs. Sandra Rogers who has worked in the mathematics laboratories project for three and one-half years. Mr. Dan Sandel, mathematics consultant for the South Carolina State Department of Education, served in an advisory capacity to Mrs. Rogers during the writing and compiling activity.

Teachers who plan to use the mathematics laboratory methods, as developed in this project, are cautioned to be aware that no one set of curriculum materials can be used with all students. The materials developed in this project should serve as the basic core of the laboratory curriculum with each teacher using his own initiative to adapt the materials to the needs of his students.

Materials and methodology alone will not produce a successful mathematics laboratory program. For success to be realized, the mathematics laboratory must be staffed with a teacher and an aide who are dedicated and enthusiastic and who are compassionate toward the type of students served in this project.

Dr. Marvin Woodson, Jr.
Assistant Superintendent and
Project Director

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PERCENT - PRETEST A

Express each of the following as a percent.

1. 5/100 = ____
2. 20/100 = ____
3. 1/2 = ____
4. 16/100 = ____
5. 3/100 = ____
6. 9/20 = ____
7. 200/100 = ____
8. 3/10 = ____
9. 30/100 = ____
10. 19/100 = ____

Do page 2 ☐

Express each of the following as a percent.

11. 81 out of a 100 = ____
12. 47 out of 50 = ____
13. 68 out of 100 = ____
14. 7 1/2 out of 100 = ____
15. 95 out of 100 = ____
16. 1 out of 10 = ____
17. 20 2/3 out of 100 = ____
18. 192 out of 100 = ____
19. 17.5 out of 100 = ____
20. 32 out of 10 = ____

Do page 3 ☐

Express each of the following as a percent.

21. 3 hundredths = ____
22. 9 hundredths = ____
23. 16 hundredths = ____
24. 30 hundredths = ____
25. 7.4 hundredths = ____
26. 300 hundredths = ____
27. 5 1/2 hundredths = ____
28. 37 3/4 hundredths = ____
29. 62.5 hundredths = ____
30. 1/4 hundredths = ____

Do page 4 ☐

1. Percent means parts per ____

2. 12/100 = ____%

3. 93/100 = ____%

4. 14/100 = ____%

5. 2/5 = ___/100 = ____%

6. 1/4 = ___/100 = ____%

7. 1/2 = ___/100 = ____%

8. 1/5 = ___/100 = ____%

9. 1/10 = ___/100 = ____%

10. 3/4 = ___/100 = ____%

11. 7/10 = ___/100 = ____%

12. 9/20 = ___/100 = ____%

13. 2/25 = ___/100 = ____%

14. 43/50 = ___/100 = ____%

15. 21/25 = ___/100 = ____%

16. 17/50 = ___/100 = ____%

17. 3/5 = ___/100 = ____%

18. 9/50 = ___/100 = ____%

19. 1/25 = ___/100 = ____%

20. 23/25 = ___/100 = ____%

21. 7/10 = ___/100 = ____%

22. 49/50 = ___/100 = ____%

23. 1/50 = ___/100 = ____%

24. 17/25 = ___/100 = ____%

25. 9/10 = ___/100 = ____%

26. 50/50 = ___/100 = ____%

27. 1/20 = ___/100 = ____%

28. 30/25 = ___/100 = ____%

29. 4/5 = ___/100 = ____%

30. 10/10 = ___/100 = ____%

31. 90/10 = ___/100 = ____%

32. 3/10 = ___/100 = ____%

33. 3/25 = ___/100 = ____%

Find the following percents.

1. 52 boys out of 100 students. ____%

2. 12 cards out of 100 were black. ____%

3. 100 students out of 100 joined 4-H Club. ____%

4. 13 girls out of 100 girls have brown eyes. ____%

5. 91 dogs out of 100 dogs have tails. ____%

6. 2 boys out of 5 boys hate girls. ____%

7. 23 grades out of 25 are passing. ____%

8. 7 teeth out of 50 have cavities. ____%

9. 1 3/4 classes out of 10 have a closet. ____%

10. 3 boys out of 5 have long hair. ____%

11. 6 cars out of 25 are red. ____%

12. 1 1/2 games out of 2 are won. ____%

13. 5 people out of 50 are blondes. ____%

14. 2 tables out of 5 are round. ____%

15. 9 men out of 25 are short. ____%

16. 50 flowers out of 100 are pink. ____%

17. 3 rabbits out of 20 are grey. ____%

18. 11 teachers out of 20 are women. ____%

19. 3 rooms out of 4 are green. ____%

Find the following percents:

1. 1 hundredths = ____
2. .15 hundredths = ____
3. 12 hundredths = ____
4. 67 1/9 hundredths = ____
5. 13.7 hundredths = ____
6. .01 hundredths = ____
7. 22 1/2 hundredths = ____
8. 71 2/3 hundredths = ____
9. 88 hundredths = ____
10. .9 hundredths = ____
11. 1/2 hundredths = ____
12. 500 hundredths = ____
13. 7.90 hundredths = ____
14. 100 hundredths = ____
15. 101 hundredths = ____
16. 2 1/9 hundredths = ____
17. 10.11 hundredths = ____
18. 2/5 hundredths = ____
19. .007 hundredths = ____
20. 33 1/3 hundredths = ____
21. 8 hundredths = ____
22. 101 1/5 hundredths = ____
23. 400 hundredths = ____
24. 99/9 hundredths = ____
25. 1 3/4 hundredths = ____
26. .99 hundredths = ____
27. 61 hundredths = ____
28. 67 hundredths = ____
29. 121.6 hundredths = ____
30. 33 3/10 hundredths = ____
31. .7203 hundredths = ____
32. 6/8 hundredths = ____
33. 99 hundredths = ____

PERCENT - PRETEST B

Change the % to a decimal.

1. 5% = ____

2. 84% = ____

3. 125% = ____

4. 2 1/2% = ____

5. 102 1/4% = ____

6. .2% = ____

7. 7/8% = ____

8. 700% = ____

9. 18 3/4% = ____

10. 87.5% = ____

Do page 6. ☐

Change the decimal to a percent.

11. .07 = ____

12. .19 = ____

13. 1.34 = ____

14. .06 1/2 = ____

15. .435 = ____

16. 2 = ____

17. .0757 = ____

18. .5 = ____

19. .0036 = ____

20. 90 = ____

Do page 7. ☐

Change percent to decimal.

1. 30%
2. 110%
3. 8%
4. 53%
5. 90%
6. 119%
7. 160%
8. 6%
9. 16%
10. 27%
11. 400%
12. 134%
13. 9%
14. 38%
15. 81%
16. 70%
17. 157%
18. 100%
19. 45%
20. 99%
21. 37 1/2%
22. 18 3/4%
23. 4 1/2%
24. 5 4/5%
25. 60 1/2%
26. 127 3/5%
27. 1/4%
28. 2/3%
29. 5/8%
30. 50 1/3%
31. 37 1/2%
32. 70 3/20%
33. 100 7/8%
34. 101 1/4%
35. 152 9/16%
36. 60 1/50 %
37. 10 3/5%
38. 9 30/50%
39. 9 1/100%
40. 6 1/100%
41. 87.5%
42. 17.75%
43. 3.5%
44. 34.25%
45. 2.8%
46. 3.67%
47. 57.3%
48. 91.09%
49. 26.375%
50. 895.667%
51. 128.33%
52. .7%
53. .02%
54. .9%
55. .49%
56. .002%
57. 11.9%
58. 1.19%

Change decimal to percent.

1. 1
2. [illegible]
3. 99
4. 101
5. 10
6. 83
7. [illegible]
8. [illegible]
9. 24
10. 72
11. 222
12. 5
13. 244
14. 41
15. 2
16. 1000
17. 100
18. 207
19. [illegible]
20. 93
21. [illegible].01
22. [illegible]75
23. [illegible]3/3
24. 2.375
25. .08
26. 3.16
27. .6
28. .59
29. 1.33
30. .05
31. 1.2
32. 1.18
33. .28
34. 1.7
35. .3
36. 1.50
37. .93
38. .003
39. 10.7275
40. .1
41. .12 1/2
42. 1.37 1/10
43. 1.00
44. .33 1/3
45. 1.16 3/20
46. .50 1/2
47. .24 1/5
48. .83 5/6
49. 1.05 3/4
50. .2 1/2
51. .10 2/5
52. .00 1/4
53. .30 3/5
54. .1 3/4
55. .01 1/4
56. .00 1/2
57. .05 3/4
58. .00 3/5
59. .00 1/50
60. .07 1/5

PERCENT - PRETEST C

Change the % to a fraction.

1. 50% = ____

2. 25% = ____

3. 10% = ____

4. 80% = ____

5. 2 1/2% = ____

6. 90% = ____

7. 6 3/4% = ____

8. 20% = ____

9. 33 1/3% = ____

10. 7% = ____

Do page 9. ☐

Change the fraction to a %.

11. 3 1/4 = ____

12. 66 2/5 = ____

13. 1/2 = ____

14. 7/10 = ____

15. 84/84 = ____

16. 10 3/4 = ____

17. 5/8 = ____

18. 4/25 = ____

19. 13/20 = ____

20. 18/200 = ____

Do page 10. ☐

Change to a fraction.

1. 60%
2. 30%
3. 40%
4. 70%
5. 20%
6. 8%
7. 130%
8. 75%
9. 2%
10. 125%
11. 6%
12. 46%
13. 85%
14. 133%
15. 99%
16. 36%
17. 200%
18. .05%
19. 6.5%
20. .8%
21. .10%
22. 2.0%
23. 20.5%
24. .70%
25. .7%
26. .75%
27. 1.00%
28. .87 1/2%
29. .125%
30. 1.32%
31. .04%
32. .99%
33. .50%
34. 5.3%
35. 87 1/2%
36. 83 1/3%
37. 8 3/4%
38. 12 1/2%
39. 19 99/100%
40. 37 1/4%
41. 25 3/10%
42. 39 1/50%
43. 66 1/5%
44. 9 1/2%
45. 2/10%
46. 6 2/5%
47. 44 3/25%
48. 16 1/25%
49. 9 3/10%
50. 10 1/5%

Change the fraction to a percent

1. 3/4
2. 2/3
3. 3/100
4. 19/50
5. 8/400
6. 9/36
7. 7/9
8. 24/56
9. 18/18
10. 1 1/2
11. 7/4
12. 72/64
13. 2 2/3
14. 12/5
15. 2/5
16. 1/2
17. 7/10
18. 4/5
19. 5/6
20. 3/8
21. 1/3
22. 7/8
23. 1/6
24. 7/100
25. 1/4
26. 39/100
27. 145/100
28. 81/100
29. 27/50
30. 4/25
31. 13/20
32. 31/50
33. 16/25
34. 18/200
35. 35/700
36. 60/500
37. 45/45
38. 16/24
39. 5/7
40. 8/11
41. 7/15
42. 20/36
43. 45/99
44. 40/40
45. 1 3/4
46. 1 2/5
47. 1 4/7
48. 1 5/8
49. 156/156
50. 84/84

PERCENT - PRETEST D

1. Find 23% of 64.
2. Find 3% of 18.
3. Find 4% of 200.
4. Find 60% of 175.
5. Find 114% of 240.
6. Find 3 1/2% of 40.
7. Find .4% of 52.
8. Find 4% of 12.
9. Find 18% of 46
10. Find 6% of 24.

Do page 12. ☐

11. Find .5% of $.56.
12. Find 18% of $8.16
13. Find 32% of $6.73.
14. Find 95% of $2.25.
15. Find 3 1/2% of $9.40.
16. Find 100% of $34.00.
17. Find 10 1/2% of $2.19.
18. Find 6 1/4% of $32.80.
19. Find .2% of $.80.
20. Find 6.75% of $3.05

Do page 13. ☐

Find the following.

1. 24% of 52
2. 87% of 41
3. 63% of 75
4. 14% of 80
5. 92% of 48
6. 16% of 240
7. 59% of 936
8. 45% of 819
9. 32% of 2907
10. 21% of 4384
11. 2% of 18
12. 4% of 93
13. .5% of 84
14. .009% of 50
15. 3.8% of 251
16. 25% of 1540
17. .3% of 200
18. 3% of 5000
19. 127% of 743
20. 4 1/2% of 624
21. 7.8% of 45
22. .3% of 160
23. .7% of 728
24. 200% of 75
25. 1/4% of 300
26. 9% of 50
27. 1% of 85
28. 2% of 36
29. 300% of 1
30. 3% of 200
31. 18% of 47
32. 100% of 3
33. 200% of 3

Find the following.

1. 39% of $6.75
2. 2% of $3.60
3. 5% of $8.24
4. 3% of $9.62
5. 18% of $4.70
6. 27% of $8.73
7. 2 1/2% of $2.19
8. 15% of $8.75
9. 3 1/2% of $9.40
10. 5% of $295.08
11. 79% of $25.38
12. 3/4% of $20.00
13. 38% of $251.69
14. 3.5% of $2.80
15. 4.3% of $5.80
16. 160% of $2.25
17. 1/4% of $32.80
18. 4% of $5.43
19. 100% of $9.52
20. 1% of $15.40
21. 4.5% of $.90
22. 3 1/2% of $9.40
23. 4% of $10.55
24. 6% of $27.75
25. 137 1/2% of $11.12
26. 200% of $35.86
27. 2% of $4.68
28. 87 1/2 % of $.58
29. .2% of $7.00
30. 124% of $6.73
31. 25% of $75.24
32. 1/2% of $18.54
33. 3% of $.90

PERCENT - PRETEST E

(Work all problems on following page.)

Sales Tax

1. If the sales tax is 4%, what would be the tax on a purchase of $8.50?____

2. What would be the sales tax on a purchase of $17.10?___

3. Fill in the following chart:

Purchase	$65.00	$1.98	$12.36
Tax Rate	3%	2%	3 1/2%
Tax			
Total			

Discount

1. Mr. Brown bought a camera at a 15% discount. If the regular price was $56.00 how much discount was he allowed?____ How much did he pay?_____

2. Fill in the following chart:

Price	$43.00	$170.94	$6.59
Rate of discount	10%	42%	37 1/2%
Discount			
New Price			

3. How much discount is allowed if the catalogue lists a kitchen cabinet sink at $98.75 and the discount is 16%? What is the new price?____

Commission

1. A real estate agent sold a house for $13,500 and was paid a commission of 5%. What was his commission?____

2. Find the commissions:

Sale	$4,275	$108.25	$20,000
Rate of Commission	7%	12%	5 1/2%
Commission			

3. Jane's sister works in a department store. She receives $45 per week and gets 1% commission on all that she sells. How much did she earn in a week she sold $1,028 worth of merchandise? ____

Profit and Loss

1. A merchant sold a rug costing him $139 at a profit of 30%. How much profit did he make? What was the new selling price?____

Profit and Loss (Continued)

2. Fill in the following chart:

Cost	$236.15	$1.25	$54.00
Rate of profit	9%	40%	25%
Profit			
Selling price			

3. Shirts cost a merchant $48 a dozen. At what price each must he sell the shirts to make a 15% profit? _____

Simple Interest

1. Mr. Jennings owns a $100 bond with 5% interest rate. How much interest does he receive after 1 year?

2. Find the interest on the following.

Money	$250	$1600	$500
Rate	2%	5 1/2%	6%
Time	1 year	2 years	12 years
Interest			

3. A man borrowed $600 at 4% interest rate for 3 years. How much interest did he owe?____ What amount was due?____